

IN THE CLAIMS:

Please amend the claims as follows:

Claim 1 (original): Reactive polymers and copolymers based on N- (2-hydroxypropyl) methacrylamide for preparation of polymeric drugs, modification of biologically active proteins and preparation of gene delivery systems characterized in that they contain reactive thiazolidine-2-thione groups.

Claim 2 (original): Reactive polymers and copolymers according to Claim 1 characterized in that they contain reactive thiazolidine-2-thione groups in side chains of the polymers or copolymers.

Claim 3 (original): Reactive polymers and copolymers according to Claim 1 characterized in that they contain reactive thiazolidine-2-thione groups at the ends of polymer chains.

Claim 4 (original): Reactive copolymers according to Claim 2, characterized in that they consist of 30-3000 monomer units linked in a polymer chain, out of which 60-99.8 % are N-(2-hydroxypropyl) methacrylamide units and 0.2-40% are reactive monomer units based on N-methacryloylated amino acids or oligopeptides containing reactive thiazolidine-2-thione groups of the general formula Ma-X-TT, where X is an amino acid or oligopeptide and the amino acid is selected from a group including 6-aminohexanoic acid, 4-aminobenzoic acid and D-alanine and the oligopeptide is selected from a group including GlyGly, GlyPhe, GlyPheGly, GlyLeuGly,

GlyPheLeuGly, Gly-DL-PheLeuGly, GlyLeuPheGly.

Claim 5 (original): Reactive polymers according to Claim 3, characterized in that they consist of 20-150 monomer units linked in a polymer chain composed of 100%N-(2- hydroxypropyl) methacrylamide units and bearing (3-sulfanylpropanoyl)-thiazolidine-2- thione grouping at the chain end.

Claim 6 (original): Reactive polymers according to Claim 5, characterized in that they consist of 20-150 monomer units linked in a polymer chain composed of 95-99.9 %N-(2- hydroxypropyl) methacrylamide units and 0. 1-5 % N-methacryloylated oligopeptides of doxorubicinu, where oligopeptides are selected from a group including GlyPheGly GlyLeuGly, Gly-DL-PheLeuGly, GlyPheLeuGly, GlyLeuPheGly and GlyLeuLeuGly, and bearing (3-sulfanylpropanoyl) -thiazolidine-2-thione grouping at the chain end.

Claim 7 (origina): Reactive polymers according to Claim 3, characterized in that they consist of 20-2000 monomer units linked in a polymer chain composed of 100 %N-(2- hydroxypropyl) methacrylamide units and bearing (4-cyanopentanoyl)-thiazolidine-2- thione group at the chain end.

Claim 8 (original): Reactive polymers according to Claim 7, characterized in that they consist of 20-2000 monomer units linked in a polymer chain composed of 95-99.9 % N-(2- hydroxypropyl) methacrylamide units and 0.1-5 % N-methacryloylated oligopeptides of doxorubicinu, where oligopeptides are selected from a group including GlyPheGly

GlyLeuGly, Gly-DL-PheLeuGly, GlyPheLeuGly, GlyLeuPheGly and GlyLeuLeuGly, and bearing (4-cyanopentanoyl) thiazolidine-2-thione group at the chain end.

Claim 9 (original): Reactive monomer units based on N-methacryloylated amino acids or oligopeptides for preparation of polymers according to Claim 4, characterized in that they consist of N methacryloylated amino acids or oligopeptides containing reactive thiazolidine-2-thione groups of the general formula Ma-X-TT, where X is an amino acid or oligopeptide and the amino acid is selected from a group including 6-aminohexanoic acid, 4-aminobenzoic acid and 0-alanine and the oligopeptide is selected from a group including GlyGly, GlyPhe, GlyPheGly, GlyLeuGly, GlyPheLeuGly, Gly-DL-PheLeuGly, GlyLeuPheGly and TT is a reactive thiazolidine-2-thione group.

Claim 10 (original): Method of preparation of reactive polymers and copolymers according to Claim 1 characterized in that the monomers selected from the group consisting of N-(2-hydroxypropyl) methacrylamide and N-methacryloylated amino acid or oligopeptide containing reactive thiazolidine-2-thione groups are subjected to radical copolymerization in solution.

Claim 11 (original): Method of preparation of reactive polymers and copolymers according to Claim 1 characterized in that the monomer N (2-hydroxypropyl) methacrylamide is subjected to precipitation radical polymerization in the presence of 3-sulfanylpropanoic acid as chain carrier or 2,2'-azobis (4-cyanopentanoic acid) as

initiator and the obtained polymer is reacted with 4,5-dihydrothiazole-2-thiol.

Claim 12 (currently amended): Method of preparation of reactive polymers and copolymers according to ~~Claims 6 or 8~~ Claim 6 characterized in that the monomer N (2-hydroxypropyl) methacrylamide is subjected to solution radical copolymerization with a N-methacryloylated oligopeptide of doxorubicine in the presence of 3-sulfanylpropanoic acid as chain carrier or 2,2'-azobis (4- cyanopentanoic acid) as initiator and the obtained polymer is reacted with 4,5- dihydrothiazole-2-thiol.

Claim 13 (original): The use of reactive polymers according to Claim 1 for preparation of polymer conjugates containing a drug such as doxorubicin and daunomycin.

Claim 14 (original): The use of reactive copolymers according to Claim 1 for preparation of polymer conjugates containing a protein such as IgG, hIgG and monoclonal antibody.

Claim 15 (original): The use of reactive polymers according to Claim 1 for preparation of hydrophilic- polymer-modified ("coated") polymer complexes (polyplexes) of DNA plasmids or adenoviruses as gene delivery systems.

Claim 16 (new): Method of preparation of reactive polymers and copolymers according to Claim 8 characterized in that the monomer N (2-hydroxypropyl)

methacrylamide is subjected to solution radical copolymerization with a N-methacryloylated oligopeptide of doxorubicine in the presence of 3-sulfanylpropanoic acid as chain carrier or 2,2'-azobis (4- cyanopentanoic acid) as initiator and the obtained polymer is reacted with 4,5- dihydrothiazole-2-thiol.